AGRICULTURE CENTER LETHBRIDGE

Agriculture Canada

The Canada Department of Agriculture is proud and pleased to occupy the new Agriculture Center at the Research Station, Lethbridge. It is a highlight of the continued cooperation and coordination of the efforts by Agriculture Canada and Alberta Agriculture that this Center was jointly planned and is now jointly occupied. This strength will help support the modern and expanding agriculture of southern Alberta.

The Lethbridge Research Station, established in 1906, has developed many innovative agricultural practices which are now in common use by Canadian farmers. Alberta Agriculture has played no small part in taking these new developments to the farmer—and in identifying problems of the farmer for study by scientists of the Research Station. I look forward to continued and closer cooperation in this joint accommodation. Lethbridge is the national center for irrigation and drainage research. It has strong programs in range and dryland management, in disease and insect control and in plant breeding for both dryland and irrigated cropping.

The Center also accommodates Agriculture Canada people from the Department's Production and Marketing and Economics Branches. By such arrangement I look forward to an improved service from both governments to the prime producers of the food supply for Canada and other parts of the world.

Eugene Whelan

THE HONOURABLE EUGENE WHELAN,
MINISTER OF AGRICULTURE,
GOVERNMENT OF CANADA.

Alberta
AGRICULTURE

With the thought of the continuing improvement of agriculture in Alberta, and in Canada, I am proud to join the federal Minister of Agriculture, the Honorable Eugene Whelan, in officially opening the new Lethbridge Agriculture Center.

This Center will combine under the same roof the elements of Alberta Agriculture with the research staff of Agriculture Canada. Each of these departments fulfills important functions in the economy and livelihood of those engaged in agriculture in this part of the province.

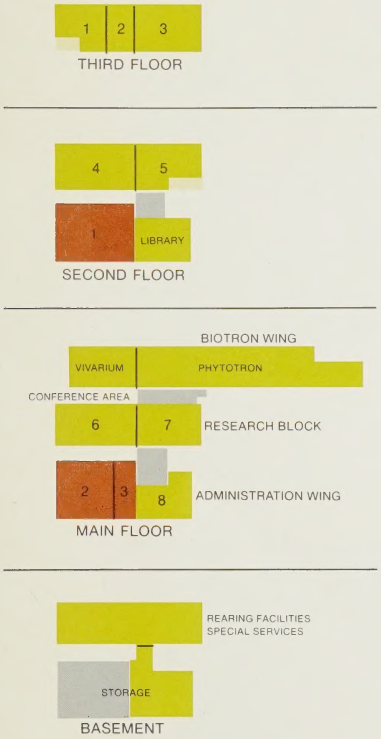
But that is only short term. In the long run, the new Lethbridge Agriculture Center is important to all Albertans, for the improvements it will develop will affect every farmer, and in turn all Albertans.

Agriculture is an industry continually seeking improvements. As one of our major aims, Alberta Agriculture attempts to provide all the resources necessary for such development. The new Lethbridge Agriculture Center is just one such project successfully completed.

Agriculture provides income to a major portion of our labor force. Improving our system of agriculture will aid all Albertans. When we can provide the new resources to aid development, then we are doing our part to improve the lot of everyone.

Marvin E. Moore

THE HONOURABLE M. E. MOORE,
MINISTER OF
ALBERTA DEPARTMENT OF AGRICULTURE



COORDINATED RESEARCH AND EXTENSION TO SERVE AGRICULTURE

The Agriculture Center was built to replace the complex of buildings that housed the Agriculture Canada Research Station, Lethbridge, and to enable close liaison between research and extension by providing office space for the District and Regional Offices and the Irrigation Division of Alberta Agriculture. The former buildings of the Research Station, constructed over a period of about 70 years, were inadequate and generally in poor condition. Few could meet minimum safety standards, and only four of the 18 office and laboratory buildings were structurally sound.

The construction of the Center was started in October 1974 and the move to the new building began in late November 1976.

The building, with a total gross area of about 25,000 m^2 (270,000 sq ft), is constructed in three main blocks connected by a central corridor. The main entrance separates the south and center blocks and allows easy access to all major divisions and sections. A conference area, with a seating capacity of 300, is located between the center block and the biotron to the north.

The center block contains laboratories situated around an inner service core that runs upward from the basement level to a fourth floor, which contains the major mechanical equipment for air conditioning and laboratory services. The offices, located around the perimeter of the block, include space for personnel of the Production and Marketing Branch. The two-story south block contains the Research Station administration and library and is shared by Alberta Agriculture. The biotron wing, on the north, houses most of the controlled environment facilities for plants (phytotron) and small animals (vivarium). There are over 100 controlled environment chambers in the phytotron and 29 isolation rooms, also with controlled environments, in the vivarium. A separate building to the northwest contains the power plant, which provides steam for heating, chilled water for air conditioning and the controlled environment rooms, and emergency electricity in the complex. The power plant is connected by a tunnel to the main building.

AGRICULTURE CANADA

RESEARCH STATION

1. Veterinary—Medical Entomology
2. Economics and Statistics
3. Animal Science
4. Soil Science
5. Plant Pathology
6. Crop Entomology
7. Plant Science
8. Administration

PRODUCTION AND MARKETING

COMMON AREAS

ALBERTA AGRICULTURE

1. Irrigation Division Headquarters
2. Regional Offices
3. District Offices

The Agriculture Center was completed at the end of 1976.

Agriculture Canada

THE RESEARCH STATION

FACILITIES AND FUNCTION

The Research Station is located on 436 hectares (1,077 acres) of dry and irrigated land on the eastern edge of Lethbridge. The Station also administers substations at Onefour, for studies of beef cattle breeding and range management; at Vauxhall, for irrigation research; and at Stavely, for Foothills range studies.

The Station serves an area of great ecological variability, from the Black soils and high precipitation of the Foothills to the Brown soils and low rainfall of the rangelands in the southeast. The area includes highly productive grainlands and nearly 400,000 hectares (1 million acres) of irrigable land.

The research carried out at the Station has played an integral role in the development of the region's agricultural industry. Farmers have used techniques developed for control of soil drifting and reclamation of eroded land. Sawfly-resistant spring wheats, high-quality winter wheats and high-yielding barleys were developed. Recommendations have been prepared for the most efficient use of water and fertilizers. Hardy legumes and grasses have increased hay production and improved irrigated pastures in the area. Suitable varieties of oilseed crops, canning crops and sugar beets have been introduced.

Controls have been developed for cutworms, grasshoppers, wheat stem sawflies, and other insect pests, as well as nematodes, wheat streak mosaic, smuts, root rots, and other plant diseases.

Improved feeding methods and rations for cattle, sheep, and poultry, along with development of control measures for their insect pests, have contributed greatly to the thriving livestock industry of the area.

CURRENT RESEARCH

Agriculture, which faces increased production costs, energy shortages, the need to preserve environmental quality, and possible climatic changes, must satisfy a global shortage of food. These challenges require research of increasing complexity and depth. The facilities in the Center will provide the means by which this research can be done.

The six sections of the Station conduct a comprehensive program of research in about 150 projects, which are organized into 29 interdisciplinary programs dealing with the agricultural commodities and resources of the region.

The Superintendent's house included the office of the Experimental Station from 1909 to 1913.

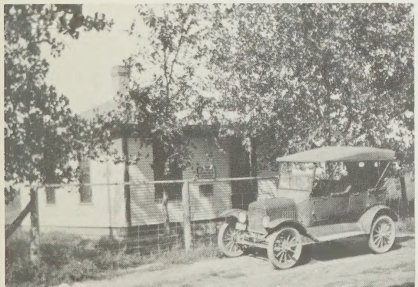
The Biology Building, occupied in 1949 as the Science Service Laboratories, housed the Administration offices and some research personnel of the Research Station until 1976.

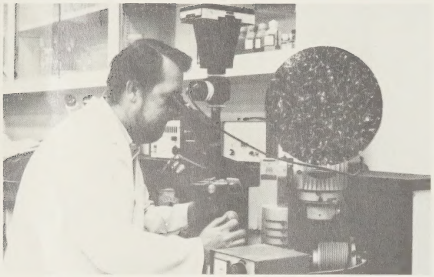
HISTORY

Agriculture Canada's Research Station at Lethbridge was formed by the amalgamation in 1959 of the Experimental Farm and the Science Service Laboratories. The Experimental Farm, originally called the Dominion Experimental Station, was founded in 1906, and included the Cereal Breeding Section, which was transferred to Lethbridge from Swift Current in 1948. The Science Service Laboratories were created in 1949 from the Lethbridge Dominion Entomological Laboratory, founded in 1913, the Livestock Insect Laboratory, Lethbridge, started in 1946, and the new Plant Pathology and Chemistry sections. The Prairie Farm Rehabilitation Act Drainage Division, Vauxhall, established in 1941, joined the Research Station in 1961 and the Dominion Range Experiment Station, founded in 1927 at Manyberries, joined the Station in 1964.

The Lethbridge Station, with a staff of about 300, is now the largest regional station of the Research Branch, Agriculture Canada, which has at least one station located in each province.

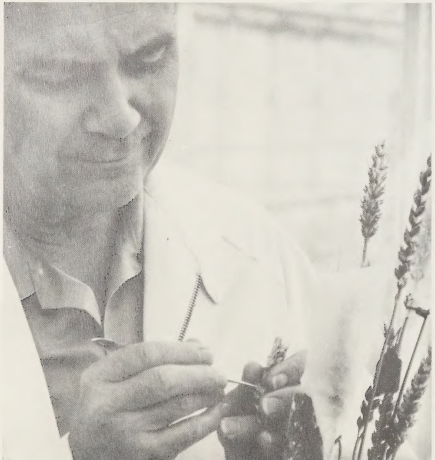
The Dominion Entomological Laboratory, built in 1915, still serves the Station as the toxicology field building.





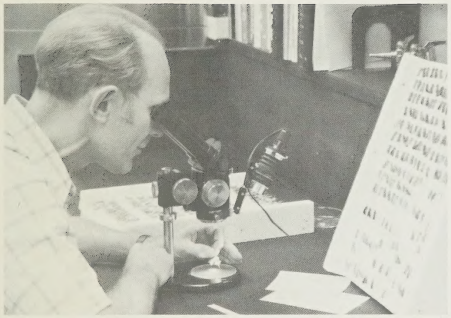
The isolation of nitrogen-fixing bacteria from around the roots of wheat plants could be of significance.

Cross-pollination is the first step in the development of new plant variety.



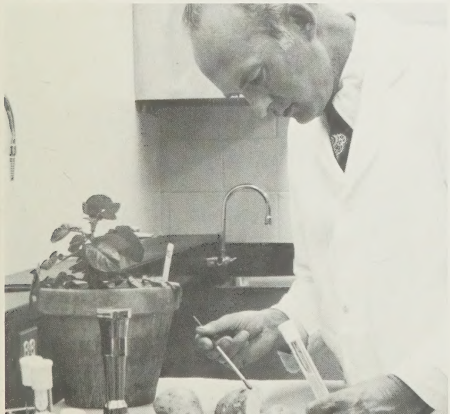
The SOIL SCIENCE SECTION is responsible for research on the nature, management and conservation of soils for irrigated and rain-fed crop production. Topics of research include predicting water requirements of irrigated crops, improving efficiency of water use, irrigating solonetzic soils, and preventing and correcting soil salinity. Methods are being investigated to improve tillage and seeding practices, conserve moisture, prevent erosion, control weeds and ensure uniform seedling emergence. Management systems are being sought to improve the physical, chemical and microbial conditions of the soil. Studies are made to determine the precise fertilizer management that will satisfy the nutrient requirements of crops grown in the region. Complementary studies are being conducted to determine ways of controlling the movement of water and salts in the soil. Certain aspects of soil organic matter composition, soil microbiology, and biomagnetism are also being investigated. Systems are being developed to manage fertilizer, and crop and animal wastes to permit their use and disposal without contamination of soil, water or crops.

The PLANT SCIENCE SECTION develops new varieties of cereals, forage crops, and vegetables, and conducts related fundamental research in genetics, cytogenetics, plant physiology, and breeding methods. Spring and winter wheat, and malting and feed barleys are being developed for high yield and quality and for disease resistance. Alfalfa and sainfoin are being improved through breeding, and various other legumes are under test. Forage species are evaluated for irrigated and rain-fed hay and pasture. Range studies involve the utilization of native grasslands for livestock production and the reseeding of these lands to cultivated species. Corn hybrids are being developed and evaluated for grain and silage production. Vegetable crops are being bred for improved adaptability and quality, and their field culture is being studied. Control, ecology, and physiology of land and water weeds are under investigation.



Identification of the species is a necessary part in many studies of crop insect pests.

The study of plant diseases involves artificial infection of plant parts.



The CROP ENTOMOLOGY SECTION develops methods of managing insect populations to protect or pollinate crops. Over 40 insect species are important pests of crops in Alberta. Although efforts are made to study all these pests, major research is restricted to those causing the greatest losses. Research by the section involves studies on behavior, ecology, toxicology, biological control, environmental quality and insecticide residues. The studies deal with pollination and seed production of alfalfa and other crops, resistance of wheat to the wheat stem sawfly, the control of insect pests of major crops, and synthesis and development of insect sex attractants. The section coordinates the survey of grasshoppers and issues an annual forecast map. Research projects are carried out in cooperation with specialists in other sections, particularly with plant breeders seeking plants with resistance to insects.

The PLANT PATHOLOGY SECTION conducts research on the protection of crops from losses caused by fungi, bacteria, viruses and nematodes. Control methods being investigated include chemical treatments and improved cultural practices. In cooperation with plant breeders, projects are under way for development of crop varieties resistant to crown rot in alfalfa, streak mosaic in wheat, and root rot in wheat and barley. Other major diseases being studied are smuts of cereals, bacterial wilt of alfalfa, ring rot and diseases causing seed-piece decay of potatoes, and various root and foliar diseases of vegetables. This section is also involved in a national project on crop loss assessment.

Feeding animals in metabolic cages allows detailed studies of feed utilization and waste.

Many research studies are done in the field. Collection of blood-sucking flies in northern Alberta is part of one such study.

The ANIMAL SCIENCE SECTION conducts research on nutrition, rumen microbiology, physiology, breeding and management. The animals studied include sheep, chickens, and beef and dairy cattle. Nutritional research is concerned with defining nutrient requirements and utilization in cattle and chickens. Physiological research deals with increasing the reproductive performance of cattle and sheep; determining factors controlling growth of cattle; and defining the role of rumen microbes in feed utilization and metabolic disorders such as bloat. In the breeding programs, the influence of selection on performance in straightbred and crossbred lines of beef and dairy cattle, and the evaluation of reproductive performance in many types of first-cross cows are emphasized. Management and economic aspects of intensive sheep and beef production are being studied. The results are used to develop feeding and management programs to maximize financial returns from livestock to the producer.

The VETERINARY-MEDICAL ENTOMOLOGY SECTION is engaged in solving problems related to pests and parasites of man and livestock. Research deals with the ecology, behavior, pathology and host-parasite relations of biting flies, cattle grubs, lice, ticks, and other pests of livestock. Biting flies have limited livestock production in some northern areas of western Canada. Mosquitoes have accompanied the expansion of irrigation in the prairies. Biological and chemical means of protecting man and animals from these pests are being developed. Reactions of animals to pesticides and their effects on productivity are included in toxicologic and economic studies relating to efficient management.

The library functions as a regional scientific library for other federal agricultural research centers in Alberta.

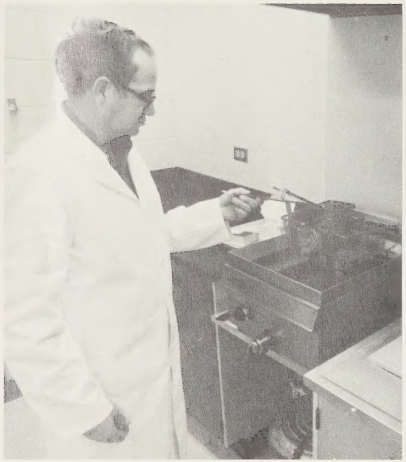
The terminal, linked to a large computer in Toronto, provides the extensive facilities needed for analysis of research results.

The ADMINISTRATION SECTION is responsible for Station management, maintenance of buildings, grounds, and equipment and the provision of stenographic, financial, and scientific support services.

Scientific support includes the technical information officer who serves the general public and the agricultural community; an editor who ensures the quality of the 200 scientific, technical and popular articles produced by the staff annually; a statistician and his staff who assist in the computer analysis of experimental results; and photographic and drafting services.

The Regional Library is part of the Libraries Division of Agriculture Canada. Its holdings include about 15,000 volumes and over 100,000 separates.

The ECONOMICS SECTION seconded from the Economics Branch of the Department, cooperates with Station scientists in the transfer of research results to the farm community. Systems models of agricultural enterprises, incorporating research data from this and other stations, are being developed. These models are used by farmers and ranchers to assess the net benefits of applying new technologies and by researchers in economic evaluation of research results and in selecting topics for further work. In addition, the economists provide basic information for use by the Economics Branch.



Samples of canned, frozen, and dehydrated fruit and vegetables produced locally or imported are prepared and tested for grade.

Imported nursery stock and house plants are examined for insects and diseases.

PRODUCTION AND MARKETING BRANCH

This Branch is organized according to commodity groups or functions. It is responsible for ensuring the quality of agricultural products and of purchased goods essential to agriculture, for providing market information, and for preventing the introduction or spread of pests detrimental to crop production. Inspectors from five divisions of the Branch are located in the Agriculture Center.

The DAIRY DIVISION is responsible for inspection and registration of dairy plants, and grading and inspection of dairy products.

The inspectors of the FRUIT AND VEGETABLE DIVISION examine fresh and processed Canadian products and imports for compliance with grade, packaging, and marketing regulations. Processing plants and fresh-produce warehouses are registered and inspected.

The staff of the PLANT PRODUCTS DIVISION inspect seeds, feeds, fertilizers and pesticides to ensure that they meet existing standards.

The PLANT QUARANTINE DIVISION examines imported plants and plant products to ensure that they are free from insects and diseases. They also examine and certify plant material for export.

The POULTRY DIVISION conducts inspections to ensure that poultry products meet the standards for grade and quality.

AGRICULTURE CANADA

RESEARCH BRANCH

Director J. E. Andrews, Ph.D., F.A.I.C.
Assistant Director (Acting) N. D. Holmes, Ph.D., LL.D.
Administration (Head) S. B. Arnason, B.S.A.
Administration (Finance) C. G. Schoening
Administration (Personnel) M. G. Roach
Building Supervisor L. C. McLaughlin
Information Officer P. E. Blakeley, M.Sc.
Editor G. C. R. Croome, M.Sc.F.
Biometrician G. C. Kozub, M.Sc.
Library Area Coordinator J. P. Miska, B.L.S.
Assistant Librarian C. M. Ronning (Miss), B.L.S.

SOIL SCIENCE

Head of Section D. C. MacKay, Ph.D.
Agricultural engineering C. W. Lindwall, M.Sc.
Chemical analyses J. M. Carefoot, M.S.A.
Organic chemistry J. F. Dormaar, Ph.D.
Chemistry and genesis L. E. Lutwick, Ph.D.
Drainage engineering T. G. Sommerfeldt, Ph.D.
Dryland agronomy U. J. Pittman, B.Sc.
Environmental microbiology R. G. Bell, Ph.D.
Hydrology M. Oosterveld, Ph.D.
Irrigation agronomy S. Dubetz, M.S.
Irrigation efficiency K. K. Krogman, M.Sc.
Irrigation engineering E. H. Hobbs, B.Sc.
Liaison engineer R. B. Rogers, B.Sc.
Plant nutrition J. B. Bole, Ph.D.
Soil microbiology J. L. Neal, Ph.D.
Soil physics J. C. van Schaik, Ph.D.

PLANT SCIENCE

Head of Section D. B. Wilson, Ph.D.
Aquatic plant physiology J. R. Allan, Ph.D.
Barley breeding S. A. Wells, Ph.D.
Corn breeding; wheat cytogenetics M. D. MacDonald, Ph.D.
Cold hardiness S. Freyman, Ph.D.
Crop physiology D. J. Major, Ph.D.
Crop weeds W. M. Hamman, Ph.D.
Dryland forages S. Smoliak, M.S.
Food science M. S. Kaldy, Ph.D.
Forage legume breeding M. R. Hanna, Ph.D.
Range ecology A. Johnston, M.S., LL.D., F.A.I.C., F.S.R.M.
Spring wheat breeding H. McKenzie, Ph.D.
Vegetable breeding G. A. Kemp, Ph.D.
Wheat cytogenetics R.I. Larson (Miss), Ph.D., D.Sc.
Winter wheat breeding M. N. Grant, Ph.D.

CROP ENTOMOLOGY

Acting Head of Section S. McDonald, C.D., M.Sc.
Aphids A. M. Harper, Ph.D.
Cutworms G. E. Swailes, Ph.D.
Forage-crop pollinators K. W. Richards, Ph.D.
Insect attractants D. L. Struble, Ph.D.
Insecticide residues W. A. Charnetski, Ph.D.
Potato and sugarbeet insects C. E. Lilly, M.Sc.

PLANT PATHOLOGY

Head of Section J. B. Lebeau, Ph.D.
Bacterial diseases G. A. Nelson, Ph.D.
Cereal diseases T. G. Atkinson, Ph.D.
Cryobiology D. W. A. Roberts, Ph.D.
Nematode diseases E. J. Hawn, D.F.C., Ph.D.
Disease loss assessment F. R. Harper, Ph.D.

ANIMAL SCIENCE

Head of Section E. E. Swierstra, Ph.D.
Animal nutrition D. M. Bowden, Ph.D.
Animal nutrition R. Hironaka, Ph.D.
Animal physiology C. B. Bailey, Ph.D.
Beef cattle breeding D. G. Keller, Ph.D.
Beef cattle breeding J. E. Lawson, M.S.A.
Poultry nutrition E. E. Gardiner, Ph.D.
Reproductive physiology G. H. Coulter, Ph.D.
Rumen microbiology K.-J. Cheng, Ph.D.
Sheep and dairy cattle breeding J. A. P. Vesely, Ph.D.

VETERINARY-MEDICAL ENTOMOLOGY

Head of Section W. O. Haufe, Ph.D.
Biting fly ecology J. A. Shemanchuk, C.D., M.Sc.
Black fly ecology K. R. Depner, Ph.D.
Cattle grub ecology J. Weintraub, M.S.
Parasitology W. A. Nelson, Ph.D.
Pesticide chemistry W. G. Taylor, Ph.D.
Serology R. H. Robertson, M.Sc.
Tick ecology and control P. R. Wilkinson, Ph.D.
Toxicology M. A. Khan, Ph.D.

ECONOMICS

Head of Section B. H. Sonntag, Ph.D.
Forage and livestock production K. K. Klein, Ph.D.
Irrigation K. D. Russell, M.S.
Dryland crop production R. P. J. Zentner, M.Sc.

PRODUCTION AND MARKETING BRANCH

FRUIT AND VEGETABLE DIVISION

Area Supervisor—Alberta C. F. Schwass
Inspector-in-Charge—Southern Alberta G. L. Matkin

DAIRY DIVISION

Inspector-in-Charge I. D. Stewart

PLANT PRODUCTS DIVISION

Officer-in-Charge S. Klack, B.S.A.

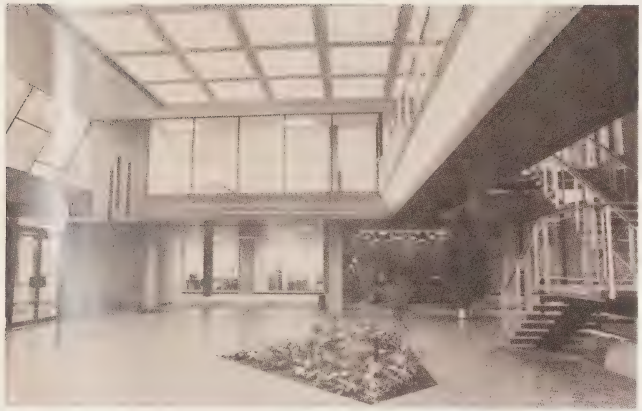
PLANT QUARANTINE DIVISION

Inspector-in-Charge N. B. Collard, Dip.Hort.

POULTRY DIVISION

Inspector-in-Charge G. E. Gaskell

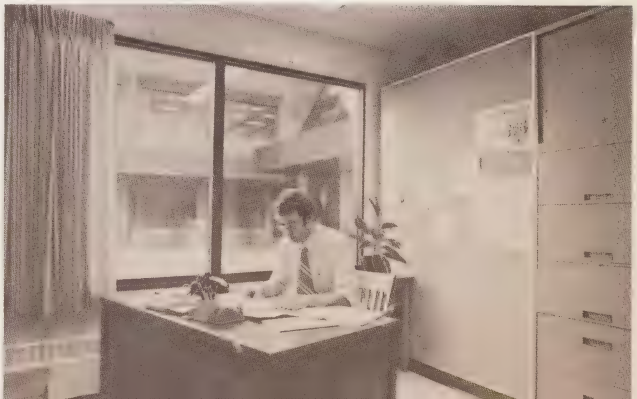
MODERN AND VARIED AGRICULTURE NEEDS ADVANCED RESEARCH

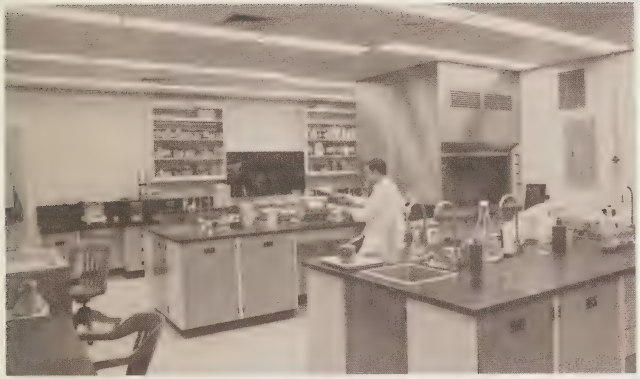


Two floors of the south and central blocks of the Center are connected by the main lobby

Stenographic services are located with registry, personnel, and accounts in a large open area in the south block

Storewalls in the compact offices provide efficient storage spaces for books and research files





The modular laboratory design facilitates changes to meet present and future research needs

The precisely controlled environments in the phytotron are essential for intensive research on plants, soils insects and diseases

Year-round facilities for research are provided by the greenhouses

The washing facilities for cages in the vivarium ensure that strict sanitation is maintained

Research under arid range conditions is conducted at the Onefour Research Substation, formerly Manyberries Range Experiment Station

The water requirements of various crops are studied in small field plots at the Vauxhall Research Substation

Carrying capacity of rangeland under moderate rainfall is studied at the Stavely Research Substation in the foothills of the Rocky Mountains

The nutrient requirements of individual animals are accurately measured in the feeding barns at the Lethbridge Research Station

Agriculture has served the farmers of the
dge district since 1921.

Although agricultural methods advance, the need for extension continues.

Alberta
AGRICULTURE

The staff of Alberta Agriculture in the Agriculture Center comprises three groups who serve the agricultural community in southern Alberta. They are the District and the Regional Offices of the Department, and the Headquarters and field offices of the Irrigation Division. Consolidating these services under one roof with the research scientists of Agriculture Canada to better serve agriculture in the south was the basis for the concept of the Center.

DISTRICT OFFICE

The Government of Alberta, through Alberta Agriculture, provides a field extension service through 63 District Offices located throughout the province. The first such office was opened in 1920 and the Lethbridge District Office was opened with a resident District Agriculturist in 1921.

The District Office in the Agriculture Center has a staff of District Agriculturists, District Home Economist, Farm Management Technician, Irrigation Specialists, Irrigation Technical Services and Loans Officers. They provide an educational service and information based on the most recent research to farmers, ranchers and agribusiness. They provide a channel through which producers and others involved in servicing and marketing agricultural products can benefit from programs of the Provincial Government designed to improve the economic well-being of agriculture in the district. District staff are responsible for interpreting the implications of agricultural policy to the agricultural community.

Field tours and discussions are part of the extension service of Alberta Agriculture.

The threat of soil salinity in dryland areas is an ever present problem that must be solved by a combination of extension and research.

REGIONAL OFFICES

Alberta Agriculture is comprised of four sectors—Development, Production, Marketing, and International Marketing—that are divided into Divisions. The Divisions and Corporations provide, where needed, regional specialist staff to support the District Office staff by providing current information on production technology, farm and home management, marketing and agricultural policy. Crown agencies or corporations also operate within the departmental framework on specific programs or services.

Regional Specialists work closely with farm organizations, commodity groups, agribusiness and other government agencies. Through cooperation with research scientists and institutions, they inform the district staff of the latest research developments and provincial programs and help in identifying needs for new or expanded research and programs. They provide resource expertise to programs and educational extension activities conducted from the District Offices.

DEVELOPMENT SECTOR

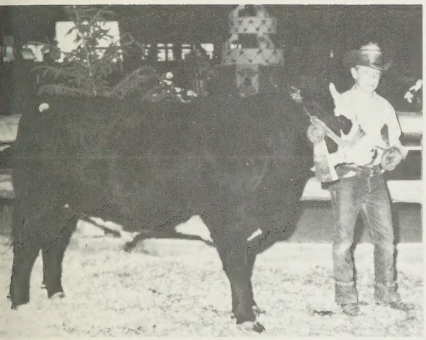
The Regional Director of the EXTENSION DIVISION is responsible for agricultural extension staff of the District Offices and administration of the Regional Office. He coordinates the districts' program activities with the Regional Specialists and represents Alberta Agriculture on various agencies and organizations. The Farm Law Specialist provides advice on matters relating to current legislation that affects agriculture and changes in it. The Farmers' Advocate office, headquartered in Edmonton, is also represented in the Regional Office.

The HOME ECONOMICS AND 4-H DIVISION is represented by the Regional Home Economist and the Regional 4-H Specialist. They support the District Office staff, liaise with related organizations and agencies, and coordinate the implementation of the Division's programs.

The FARM TRAINING DIVISION, through its regional specialist, is responsible for farm labor training programs and works closely with District staff to implement the programs at the farm level.

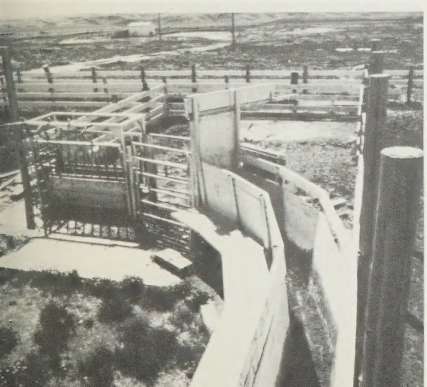
The FARM DEVELOPMENT DIVISION provides specialists and technical support for design and construction of farm structures and for engineering services.

AGRICULTURAL DEVELOPMENT CORPORATION. The regional development consultant at the Center supervises district Loans Officers responsible for credit and development programs of the Corporation and provides client supervision when this is required.



e future of agriculture depends on the youth of today, ny of whom participate in programs of the 4-H Division.

e Farm Development Division designs new and better m structures such as this chute and squeeze.



PRODUCTION SECTOR

The ANIMAL INDUSTRY DIVISION provides regional specialists, supervisors, and technical support staff in beef cattle, sheep, swine and poultry, and in regulatory services related to livestock programs of the Department.

Specialists and technical support staff of the DAIRY DIVISION administer the Department's programs for the dairy producers and plants in the region, and ensure adherence to policy procedures of the Provincial Government.

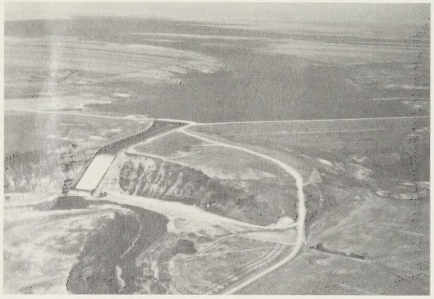
DAIRY CONTROL BOARD. This Board administers provincial and national dairy policies and programs in the region.

The VETERINARY SERVICES DIVISION provides a regional supervisor who is responsible for the Department's inspection of meat processing and distribution plants. They work closely with veterinarians of the provincial diagnostic laboratory in Lethbridge.

The PLANT INDUSTRY DIVISION, represented by the regional plant industry supervisor, specialists, and technical support, is responsible for recommendations and regulations on field crops, herbicide and fertilizer use, and pest control. They administer the Department's programs in the region and support the District Office staff in delivering information. They also liaise closely with research scientists of the Agriculture Canada Research Station and of Alberta Agriculture Horticulture Center at Brooks.

MARKETING SECTOR

The MARKET INTELLIGENCE AND MARKET DEVELOPMENT DIVISIONS are represented by regional specialists in economics, marketing and farm business management with the support staff necessary to advise on the opportunities and costs related to agricultural production, development and marketing.



The St. Mary Dam is one of the three major water-storage facilities for irrigation in southern Alberta.

Modern irrigation techniques are aimed at conserving three scarce resources—water, labor and energy.

IRRIGATION DIVISION—HEADQUARTERS AND FIELD SERVICES

The three branches of the Irrigation Division are responsible for recommending a sound irrigation program, for administering the program services for the province, and for coordination with the irrigation districts.

The CONSERVATION AND DEVELOPMENT BRANCH provides technical and extension services to irrigation farmers. It advises on irrigation methods, design and use of irrigation equipment, structures and instrumentation, on applied research in assessing soil-water-plant relationships, and on crop irrigation water requirements and scheduling.

The TECHNICAL RESOURCES BRANCH provides technical assistance to irrigation districts and farmers in classifying irrigable land. It recommends management practices for the greatest returns on the maximum irrigable acres. The officers of the Branch investigate and analyze causes and effects of seepage from irrigation canals and ditches, and recommend solutions for these problems. This service relates to both irrigation district rehabilitation projects and to individual farmers.

The PROJECT PLANNING BRANCH provides technical assistance to irrigation districts for the rehabilitation or expansion of irrigation systems. It supervises engineering consultants in the design and construction of projects. It also plans and coordinates development of irrigation projects throughout the province. Physical and economic feasibility studies and reports are provided. The Land Resources Section of this Branch administers the Crown land development program of the Division, and develops and recommends land development and management procedures that are compatible with existing legislation and policies and long-range planning objectives of other government departments, irrigation districts and local authorities. The Section coordinates specialist services in establishing the feasibility of expansion of irrigation. It ensures that oil and gas exploration sites and utility installations on irrigable Crown land are located according to existing policies and recommends changes in location when necessary.

The CO-OPERATIVE DEVELOPMENT BRANCH, which is part of the Department of Consumer and Corporate Affairs, is represented by consultants whose function is related closely to agriculture and rural areas in development of co-operative ventures.

ALBERTA AGRICULTURE

DISTRICT OFFICE

District Agriculturist M. B. McLelland, B.Sc.
District Loans Officer A. L. Lukey, B.Sc.
District Home Economist L. D. West (Mrs.), B.Sc.
Farm Management Technician G. A. Jagielski
Irrigation Specialist D. J. Wentz, B.Sc.

REGIONAL OFFICES

EXTENSION DIVISION

Regional Director C. S. Clark, B.Sc.
Office Manager B. A. van Egteren (Mrs.)
Farm Law Specialist C. S. Brandley, B.A., L.L.B.
Farmer's Advocate Office H. P. Entrup
J. Leddy
Rural Development Officer G. T. Ailsby, B.Ed.
Green Certificate Co-ordinator D. J. Le Pine, B.Sc.

HOME ECONOMICS AND 4-H DIVISION

Regional Home Economist N. J. Gray (Mrs.), B.Sc.
4-H Specialist M. M. Barfuss, B.Sc.

ANIMAL INDUSTRY DIVISION

Regional Livestock Supervisor G. A. Ross, B.Sc.
Regional Poultry Specialist R. J. Chernos, B.Sc.
Regional Swine Specialist P. J. McKinnon, Ph.D.
Regional Swine Technician C. J. Evans
Regional Supervisor, Livestock Investigations L. B. Halmrast

DAIRY DIVISION

Regional Dairy Specialist A. O. Aspeslet
Dairy Farm Inspector W. R. Smith
Dairy Herd Improvement Technician R. A. Gamache

DAIRY CONTROL BOARD

Auditor/Inspector D. G. Thompson

VETERINARY SERVICES DIVISION

Regional Supervisor M. W. Willis

PLANT INDUSTRY DIVISION

Regional Plant Industry Supervisor B. R. Shaw, B.Sc.
Regional Soils Specialist H. S. A. Vander Pluym, M.Sc.
Regional Agricultural Fieldman R. V. Bertrand

MARKET INTELLIGENCE DIVISION

Regional Farm Economist M. M. Galts, M.Sc.
Agricultural Economist L. J. Owen, B.Sc.
Agriculture Irrigation Economist
A. G. N. Van Deurzen, M.Sc.

AGRICULTURAL DEVELOPMENT CORPORATION

Regional Development Consultant G. G. Bruins, B.Sc.
Assistant Regional Development Consultant
A. L. Lukey, B.Sc.
Loans Officer R. A. Mahon

FARM DEVELOPMENT DIVISION

Farm Structures Specialist D. E. Darby, M.Sc.
Regional Agricultural Engineer R. D. Constable, B.Sc.
Agricultural Engineering Technologist O. R. Kenzie

IRRIGATION DIVISION—HEADQUARTERS

Director J. C. Purnell, B.Sc.
Administrative Assistant W. S. Potvin

CONSERVATION AND DEVELOPMENT BRANCH

Branch Head A. E. Pungor, B.Sc.

APPLIED RESEARCH SECTION

Irrigation Systems Specialist L. B. Spiess, M.Sc.
Irrigation Systems Engineer L. J. Ring, M.Sc.
Soil and Water Specialist K. Pohjakas, M.Sc.
Soil and Water Specialist R.T. Heywood, M.Sc.

IRRIGATION DEVELOPMENT SECTION

Section Head G. P. Hartman, B.Sc.

TECHNICAL RESOURCES BRANCH

Branch Head R. H. Schuler, B.Sc.

SOILS SECTION

Section Head P. G. Karkanis, Ph.D.
Soils Specialist R. W. Borden, M.Sc.
Soils Specialist R. H. McKenzie, B.Sc.

DRAINAGE SECTION

Section Head B. A. Paterson, M.Sc.
Drainage Specialist D. B. Harker, M.Sc.
Hydrogeologist C. C. Davison, M.Sc.

PROJECT PLANNING BRANCH

Branch Head R. L. Francis, B.Sc.

IRRIGATION CAPITAL WORKS SECTION

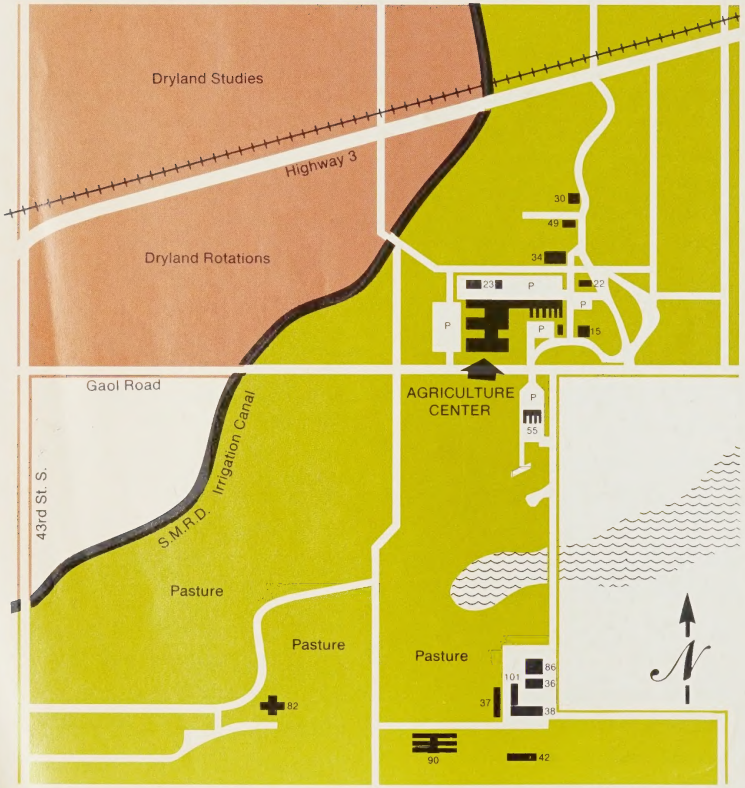
Section Head A. E. Herbig, M.Sc.
Project Engineer S. Jonas, M.Sc.

PLANNING SECTION

Section Head W. J. Wankel, B.Sc.
Planning Engineer Z. Iqbal, M.Sc.
Planning Engineer S. Ali, M.Sc.
Design Engineer J. Ganesh, B.Sc.
Land Resources S. Lee, B.Sc.
Drafting Unit Head A. L. Potvin, C.E.T.

DEPARTMENT OF CONSUMER AND CORPORATE AFFAIRS

Co-op Development Consultant E. K. Goodrich
Co-op Development Consultant J. B. Freeman



RESEARCH STATION, LETHBRIDGE, ALBERTA

East of the irrigation canal is irrigated land, west of the canal is dry land.

FIELD BUILDING INDEX

15. Animal Science
22. Plant Science
23. Soil Science
30. Toxicology
34. Maintenance Shop
36. Dairy Barn
37. Sheep Barn
38. Beef Barn
42. Sheep Barn
49. Poultry
55. South Greenhouses
82. Veterinary—Medical Entomology Barn
86. Dairy Barn
90. Beef Barn
101. Beef Barn